

Claims:

- Sub A1
1. Water-borne paint composition which comprises a binder, a coalescent agent and optionally admixtures and auxiliary agents known *per se*, characterized in that at least 20 % of the film forming agent is formed by a glycidyl ether or glycidyl ester or a mixture thereof, whereby the hydrocarbyl residue of the alcohol or carboxylic acid, respectively, of the ether or ester comprises a linear or branched, unsaturated or saturated hydrocarbon having 3 to 20 carbon atoms.
 2. The paint composition according to claim 1, characterized in that it contains 0.01 to 20 wt.-% glycidyl ether and/or ester based on the dry matter content of the composition.
 3. The paint composition according to claim 1 or claim 2, characterized in that it contains 3 to 80 wt.-%, in particular 4 to 60 wt.-% of a binder which can be dispersed in water.
 4. The paint composition according to claim 3, characterized in that the binder is poly(vinyl acetate), polyacrylate, poly(vinyl alcohol), starch, carboxymethylcellulose, hydroxyethyl cellulose or alkyd.
 5. The paint composition according to claim 4, characterized in that the binder forms a hard polymer film when the composition has dried.
 6. The paint composition according to any of claims 1 to 5, characterized in that it contains as a coalescent agent a glycidyl ether according to formula I



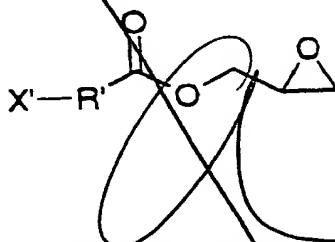
I

wherein R is a linear or branched, saturated or unsaturated C₃-C₂₀ hydrocarbon, optionally containing one or several hydroxyl groups, and

X represents hydrogen or a hydroxyl group.

7. The paint composition according to any of the preceding claims, characterized in that the hydrocarbon residue of the glycidyl ether is derived from 1-butanol, 2-butanol, isobutanol, 1-pentanol, isopentanol, 1-hexanol, 2-ethylhexanol, 1-heptanol, 1-octanol, 2-ethyl-1,3-hexanediol, neopentyl glycol, 2-butyl-2-ethyl-1,3-propanediol, trimethylol ethane, trimethylol propane, 1,4-butanediol, neodecane alcohol, 1-6-hexanediol, 1,10-decanediol or 2-ethyl-2-hexen-1-ol.

8. The paint composition according to any of claims 1 to 4, characterized in that it contains as a film forming agent a glycidyl ester according to formula II



II

wherein R' is a linear or branched, saturated or unsaturated C₂-C₂₀ hydrocarbon, optionally containing one or several hydroxyl groups, and

X represents a methyl group, methylene hydroxy group or a carboxyl or lower carboxylate group.

9. The paint composition according to any of claims 1 to 5 or 8, characterized in that the carboxylic acid residue of the glycidyl ester is derived from butanoic acid, isobutanoic acid, pentanoic acid, isopentanoic acid, 1-hexanoic acid, 2-ethylhexanoic acid, heptanoic acid, octanoic acid, neodecanoic acid, 2-hydroxy-isobutanoic acid, 2,2-dimethyl-3-hydroxypropanoic acid, 2-ethyl-2-hexenoic acid, oleic acid, linolic acid, adipic acid, fumaric acid, maleic acid, succinic acid, glutaric acid or an anhydride or another derivative thereof.

10. The paint composition according to any of the preceding claims, characterized in that the coalescent agent is 2-ethylhexylglycidyl ether, octyl glycidyl ether, mono- or diether of neopentylglycol or triglycidyl ether of trimetanolpropane, or 2-ethylhexyl

glycidyl ester, octyl glycidyl ester or isopentyl glycidyl ester or methyl glycidyl ester of glutaric acid.

11. The paint composition according to any of the preceding claims, characterized in that its pH is below about 8.5, preferably below 8.0.

12. The paint composition according to any of the preceding claims, characterized in that it contains in addition to the glycidyl ether and/or ester at least one other coalescent agent, the proportion of the glycidyl ether and/or ester of the coalescent agents of the composition amounting to at least 20 wt.-%, preferably at least 50 wt.-%.

13. The paint composition according claim 12, characterized in that the other film forming agent is the phenyl ether of ethyleneglycol, 2,2,4-trimethyl-1,3-pentanediol monoisobutyrate and/or n-butyl ether acetate of diethyleneglycol.

14. Method of accelerating the hardening of an aqueous paint composition containing binder, coalescent agent and optionally admixtures and auxiliary agents known *per se*, characterized by incorporating into the composition a glycidyl ether or ester or a mixture thereof, wherein the hydrocarbyl residue of the alcohol or carboxylic acid, respectively, of the ether or ester comprises a linear or branched, unsaturated or saturated hydrocarbon having 3 to 20 carbon atoms, the proportion of the glycidyl ether and/or ester being at least 20 wt.-% of the film forming agents of the paint composition.

15. The method according to claim 14, characterized by incorporating at least 50 wt.-% of a glycidyl ether and/or ester, whereby the paint composition attains at least 70 % of its final hardness within a day.

16. Use of a glycidyl ether or ester as film forming agent in aqueous paint compositions, said ether or ester containing a linear or branched, saturated or unsaturated hydrocarbyl residue having 3 to 20 hydrocarbyl residue with 3 to 20 carbon atoms which is linked to the glycidyl group via an ether or ester bond.